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... A N D ...

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Hakalau Plantation Company, Island of Hawaii

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Kilauea Sugar Company, Island of Kaua

.. AGENTS FOR..

OCEANIC STEAMSHIP COMPANY, of San Francisco, Steamers "Sierra", "Ventura" and "Sonoma".

UNION STEAMSHIP COMPANY, of New Zealand

HONOLULU - - - - HAWAIIAN ISLANDS

JOHN FOWLER & COMPANY

LIMITED, "LEEDS", ENGLAND

STEAM PLOWING

Tackle at Work on the Sugar Plantations of the Hawaiian Islands.



Previous to 1840 steam plowing was in existence, but in a rather primitive manner which might be termed the direct system; a locomobile simply dragged the plow along. This was very inconvenient, as the heavy engine would sink into the soft soil and thereby greatly impede the work. Messrs. J. Fowler & Co. overcame this by using what we may call the indirect system. Instead of the heavy engine itself working the plow directly, the plow is worked by a cable working on a winding drum, which forms an integral part of the engine. Messrs. J. Fowler & Co. were the first to use steel wire rope for the purpose.

Unlike most other machinery, a steam plowing apparatus is required to work under greatly varying conditions. The general formation of the ground, the condition of the land, the nature of the soil, the amount of area to be worked and the capital available all are items which have to be considered.

Of the many systems introduced and experimented with during the past forty years only one system has proved itself capable of working successfully under almost every condition of country, climate and soil. This is known as Fowler's Double Engine System, which is worked by two engines fitted with horizontal winding drums and automatic colling gear. The method of work is shown by the illustration. Two self-moving plowing engines, with patent winding drums and automatic colling gear work on opposite headlands. Each in turn hauls the plow toward itself, the engine not at work paying out its rope whilst moving

forward into position for the return journey. This arrangement requires no fixtures in the field, but the hauling ropes are available for removing rocks, stumps, etc., from the land.

A great advantage is the facility with which the tackle is set to work. Many hundreds of sets of plowing tackle are at work in England, Germany, Austria, etc., in fact, almost every part of the world where the soil is cultivated by any but the most primitive means.

On the Hawaiian Islands there are at the present day forty-two sets of Messrs. Fowler & Company's steam plowing tackle at work, and on all the plantations where they are in use the system has proved invaluable. There is not the slightest doubt that thousands of acres, now under cultivation and yielding fine crops of cane, would be lying idle were it not for Fowler & Co.'s steam plows. Here, by this system on fairly even land, twelve acres can be plowed a day, but in some parts of England as much as four acres an hour has been plowed with an eight-furrow plow, as stated in the "Engineer" of June 29, 1894.

Messrs. H. R. Fowler and G. Turner of the firm of John Fowler & Co. visited these islands in the early part of this year. They made a tour of all the plantations, studying the various soils, condition of plowing tackle, etc., so that the firm will now be enabled to meet diverse requirements, the differences of soil naturally demanding variations in plowing gear, etc. The successful working of steam plowing tackle depends not on its first cost, but on the suitability of all the details of construction for the various kinds of land.

Consideration must be taken of the great increase of planted acreage yearly made possible by the use of Messrs. Fowler & Co.'s steam plows. Many plantation owners question whether the increased yield of sugar is not more due to steam plowing than to the use of fertilizers.

Geo. W. Macfarlane, Agent

JUDD BUILDING

Honolulu, - Hawaiian Islands